

1 **ABSTRACT**

2 Improved triangle management in triangular meshes uses a data structure  
3 having two fields to store data for each triangle in the triangular mesh. The first  
4 field is a set of three vertices for the triangle and the second field is a set of three  
5 edges, each edge corresponding to one of the three vertices. Each of the three  
6 edges is an identification of a next or subsequent edge that is encountered when  
7 performing a traversal (e.g., in a counterclockwise direction) about the  
8 corresponding vertex. According to one aspect, three operators are defined to  
9 assist in management of the triangular mesh. These operators are a make edge  
10 operator, a splice operator, and a swap operator, and are selectively invoked to  
11 both add triangles to the triangular mesh and remove triangles from the triangular  
12 mesh.

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